

ABSTRACT

The invention provides methods and materials for generating a reference library of restriction fragments from pooled nucleic acids that contain a sequence polymorphism. An important aspect of the invention is the use of the reference population of restriction fragments to compare the frequencies of polymorphic sequences between different population pools. Such comparisons may be accomplished by competitively hybridizing DNA from the respective pools which has been enriched for the presence of a restriction site polymorphism with DNA from the reference population. Preferably, such competitive hybridization reactions are carried out on the reference library attached to one or more solid phase supports. Most preferably, members of the reference library are attached to individual microparticles so that each microparticle has a unique fragment attached. After competitive hybridization, the microparticles may be analyzed and sorted to identify those microparticles carrying sequences for which the pools being compared exhibit different polymorphic frequencies.